

USSN 09/840,859

Remarks

Claims 1-67 are pending in the application. By the foregoing amendment, Applicants have amended claims 1, 2, 4, 6 - 9, 15, 39 - 42, 60, 61, 63, 65 and 66. As further noted below, no new matter is entered as the clarifying language is explicit and/or clearly implicit/inherent from the specification and claims as originally present.

Before addressing the rejections raised by the Patent Office, it is important that the nature of the invention be put into context. Specifically, the present invention is directed to fastening devices activatable by electromagnetic energy comprising a susceptor capable of generating heat upon exposure to electromagnetic energy and a heat-activateable adhesive wherein the adhesive is present in patterns having a narrow, defined set of parameters whereby, in use, excellent bonding of two substrates is attained upon exposure to electromagnetic energy with low amounts of adhesive and, in a preferred embodiment, bonds which are reversible upon re-exposure to electromagnetic energy with no or minimal damage to the underlying substrate surfaces are attained. The critical parameters, which, by definition, limit the adhesive patterns, are defined in terms of i) the total surface area of the susceptor and/or the substrate to which it is bonded/to be bonded that is covered by the bonding adhesive and ii) the percentage of that total surface area that may be inscribed with circles of limited diameters. For example, in one embodiment, the adhesive may be applied in a random web of a combination of fine filaments and large blotches. In another embodiment, the adhesive may be in individual profiles, e.g., raised dots, cylindrical profiles, pyramids, etc. In yet another embodiment the adhesive may be applied as a bead of a given profile. In all instances, the limitations on total coverage by the adhesive and the planar dimensions of the adhesive at the adhesive interface must be met to provide the combination of properties desired.

In an effort to facilitate an understanding of the dimensional limitations, and recognizing that the adhesive may have multiple profiles, the draftsman introduced the concept of an inward and outward side of the adhesive. The inward side of the adhesive being that in contact with the susceptor and the outward being the opposite side which, in use, would be in contact with the substrate to be bonded. The draftsman then identified and employed a reference surface (identified in the specification as a "test surface"), one that was congruent with the susceptor, for

USSN 09/840,859

purposes of determining whether the adhesive pattern fell within or outside of the scope of the present invention. As noted above, the first application of the test surface was to determine the percent of total surface area of the test surface covered by or in contact with the adhesive. Thus, when applied to the outward side of the adhesive the test surface was essentially superimposed the susceptor with only the bonding adhesive in between. As applied to the inward side of the adhesive, the test surface was the susceptor itself. The second application of the test surface was to assess the dimensional aspects of the adhesive at the interface between the adhesive and the test surface. Essentially, the test surface was then used to trace the area of surface contact or, if you will, the footprint of the adhesive on the susceptor or, relative to the outward side of the adhesive, the test surface once it was brought into contact with the adhesive. The trace or footprint of the adhesive at the two interfaces was then assessed to determine whether the incised circle test was met. The evaluation of both interfaces is important because adhesives of different profiles are possible. Consequently, the footprint of the adhesive on the susceptor is not always the same as the footprint of the adhesive at the adhesive substrate interface. This is especially true for that embodiment shown in Figures 1 and 2 where the adhesive profiles (3) have a wide base and a pointed top so that the footprint on the susceptor (2) would be pattern of wide circles and the footprint of the adhesive on a test piece overlaying the adhesive and susceptor would be of a corresponding pattern of dots or small circles. In this particular case, because the adhesive is applied in pattern of adhesive dots resembling Hershey Kisses, determination of the compliance with the inscribed circle test is merely a matter of determining the diameter of the base and of the point. More complex patterns involve a more sophisticated analysis as depicted in Figure 9 where a random adhesive pattern is shown with inscribed circles depicted within the surface area of the adhesive footprint.

Indefiniteness – First Paragraph

In Paragraph 3 of the Office Action, the Patent Office has rejected claims 1-67 under 35 USC 112, first paragraph, as containing subject matter which is not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Specific issues were raised concerning, among other elements, the application of a "test surface" to the inward side of the adhesive.

USSN 09/840,859

In light of the foregoing discussion, Applicants have now amended the claims to specifically refer to the susceptor when speaking in terms of the footprint of the adhesive on the susceptor (the inward side of the adhesive) and to the test surface when speaking in terms of the footprint of the adhesive on the opposite side (the outward side of the adhesive) as would be found when the fastening device is brought in contact with a substrate. It is believed that the new language fully clarifies the claims and fully addresses the concerns of the Patent Office in this respect. No new matter has been entered as all the amendments are fully supported - explicitly, implicitly or inherently - by the specification and claims as originally presented.

All of the foregoing claim amendments have been made for clarification purposes only. No amendments have been made to overcome any art rejections nor are these amendments seen as limiting the invention further than was set forth in the claims as previously presented. In view of the foregoing amendments and discussion, it is now believed that the claims are written in clear, concise language so as to enable those skilled in the art to make and use the invention. Applicants respectfully request that the rejection be withdrawn and the application passed on to allowance.

Indefiniteness – Second Paragraph

In Paragraph 4 of the Office Action, the Patent Office has rejected claims 1-67 under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as their invention. Among the problems specifically pointed out by the Patent Office are an alleged ambiguity of the claims in light of Applicants' prior amendments, especially the introduction of the "i.e." phrases and the deletion of the word "against" when referencing the structural relationship of the elements of the invention. Additionally, the Patent Office further expounded on the vagueness, indefiniteness and confusion arising from the lack of clarity as raised in the prior point of rejection, as discussed above. The Patent Office also suggested that certain claims, especially claims 5 and 6, appeared to cover the same subject matter.

In light of the foregoing amendments and discussions, again Applicants believe that the amended claims fully address all of the issues raised by the Patent Office. In particular, further clarification has been introduced, objectionable text has been removed and, as a result thereof, concerns of duplicative claims have been allayed.

USSN 09/840,859

Inasmuch as all of the rejections raised by the Patent Office have now been addressed by the amendments, it is believe that the claims as now presented are in allowable format and favorable reconsideraiton is requested.

Art Rejections

Claims 1-67 stand rejected under 35 USC 102(b) as being anticipated by or, in the alternative, under 35 USC 103 as being obvious over Brooks. The Patent Office reiterated its prior rejection, directing Applicants once again to column 3, lines 31-37, of Brooks wherein Brooks indicates that the adhesive may be applied in a number of different patterns.

Applicants too reiterate their prior arguments that while Brooks indicates that various adhesive patterns could be used, Brooks does not speak of, suggest or infer, explicitly or inherently, the adhesive patterns as required by the claims of the present application. As noted earlier, the present invention is directed towards a specific subset of adhesive patterns which meet certain, critical defined dimensional and spatial parameters characterized by, in the most simplest of terms, limitations on the surface area covered by the adhesive and the ability to inscribe circles of certain diameters within a defined percentage of the area defined by the adhesive/susceptor or adhesive/test piece interface: none of which are shown, suggested or inferred by Brooks. Consequently, Brooks does not and cannot anticipate Applicants' invention since they have not demonstrated nor disclosed the same, explicitly or inherently.

Though the Patent Office has acknowledged the Declaration and comparative studies performed by Mark Holzer, the Patent Office contends that the declaration as a whole and the specific experiments conducted were not commensurate with the scope of the claims. It is alleged that the test samples are at least five layer laminates and, furthermore, that Applicants' remarks regarding the ultra-thin susceptors in the last response in discussing the Declaration, refer to aspects not found in the independent claims. Applicants respectfully request reconsideration in light of the following.

Contrary to the assertion of the Patent Office, the test samples in the Declaration of Mark Holzer are in fact representative of the present invention. Such multi-layer constructions, including

USSN 09/840,859

those wherein one substrate is pre-attached, are fully disclosed and contemplated by the present invention. See e.g., Examples 1 and 2 of the specification where the fastener included one of the two substrates to be bonded and Example 3 where there was no pre-attached substrate. Similarly, the concept of multi-layer or multi-component bonding adhesives is also disclosed and contemplated, especially with respect to the presence of a pressure sensitive adhesive for aiding in the placement of the fastening devices to a substrate before electromagnetic energy induced bonding, see, e.g., Paragraph 043.

In preparation of the Declaration, Mark Holzer elected to apply the susceptor to the fabric substrate before applying the bonding adhesive to the susceptor; however, the concept and construction of the present invention was still preserved and presented. Furthermore, while the independent claims do not include a specific limitation to the thickness of the susceptor, claims 3 and 62 do, yet no suggestion of allowability was noted. Furthermore, while thickness of the susceptor does play a role in performance of the susceptor, especially for electromagnetic activation, those skilled in the art would recognize appropriate susceptor thickness for understanding and applying the teachings of claims 1 and 60.

Regardless, the results as presented in the Declaration of Mark R. Holzer specifically show the unexpected and markedly beneficial results attained by the use of the novel and unobvious adhesive patterns in the claimed electromagnetic energy activatable fastening devices. As noted in Applicants' prior response, the use of adhesive patterns in accordance with the teaching of the present invention resulted in unexpectedly improved debonding characteristics as compared to adhesive patterns having the same or even smaller bond areas, i.e., adhesive/substrate interface, but failing the inscribed circle parameter. Applicants once again reiterate their belief that the presumption of obviousness raised relative to Brooks has been overcome by the unexpected results of Applicants' invention and the lack of teaching, suggestion or inference of such results or of such structures in Brooks.

Thus, Applicants believe that their claims define a subset of adhesive patterns which provide a unique and markedly and unexpectedly better performance, especially from a debonding perspective, as compared to similar adhesive patterns not following the strict dimensional and

USSN 09/840,859

spatial parameters as required by the present claims. As such, Applicants believe they have overcome any premise of anticipation or obvious and, thus respectfully request that the rejections be withdrawn and the application passed on to early and favorable consideration.

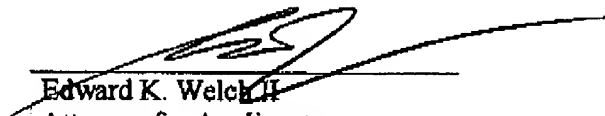
Fees

No fees are necessary as no new claims have been added.

Conclusion

In view of the foregoing amendments and response, all matters raised in the Office Action have been fully addressed. Applicants believe the present application is now in condition for allowance and early and favorable consideration is hereby requested. Should there be any questions, please contact the undersigned, Applicant's attorney.

Respectfully submitted,



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